

# HSPA12B (A-12): sc-376020

## BACKGROUND

Heat shock proteins (HSPs) are associated with stress responses and are abundant in cells. HSP 70 is the largest family of HSPs that function as molecular chaperones. HSP 70s are involved in many processes including protein synthesis, folding, assembly, trafficking between cellular compartments and degradation. HSPA12B (heat shock 70 kDa protein 12B) is a 686 amino acid protein that is abundantly expressed in the endothelial cells of muscle and heart, and is also expressed in liver and kidney. HSPA12B belongs to the heat shock protein 70 family because it contains a heat shock protein 70 (HSP 70) ATPase domain. HSPA12B is thought to be involved in angiogenesis, and as such is involved in stress signaling responses concerning wounds. HSPA12B is upregulated in atherosclerotic lesions, which suggests involvement in atherogenesis. However, increased expression of HSPA12B also increases HSP 70 concentrations, suggesting that HSPA12B could be involved in an attempt to protect cells from atherosclerotic damage.

## REFERENCES

1. Han, Z., et al. 2003. Two Hsp70 family members expressed in atherosclerotic lesions. *Proc. Natl. Acad. Sci. USA* 100: 1256-1261.
2. Steagall, R.J., et al. 2006. HSPA12B is predominantly expressed in endothelial cells and required for angiogenesis. *Arterioscler. Thromb. Vasc. Biol.* 26: 2012-2018.
3. Hu, G., et al. 2006. A novel endothelial-specific heat shock protein HspA12B is required in both zebrafish development and endothelial functions *in vitro*. *J. Cell Sci.* 119: 4117-4126.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610702. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Howarth, J.L., et al. 2009. HSP70 interacting protein prevents the accumulation of inclusions in polyglutamine disease. *J. Neurochem.* 108: 945-951.
6. Bao, X.Q., et al. 2009. Induction of heat shock protein 27 and 70 overexpression by bicyclol attenuates concanavalin A-induced liver injury through suppression of NFκB in mice. *Mol. Pharmacol.* 75: 1180-1188.

## CHROMOSOMAL LOCATION

Genetic locus: HSPA12B (human) mapping to 20p13; Hspa12b (mouse) mapping to 2 F1.

## SOURCE

HSPA12B (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 17-53 near the N-terminus of HSPA12B of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376020 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

HSPA12B (A-12) is recommended for detection of HSPA12B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HSPA12B (A-12) is also recommended for detection of HSPA12B in additional species, including equine and canine.

Suitable for use as control antibody for HSPA12B siRNA (h): sc-75310, HSPA12B siRNA (m): sc-146096, HSPA12B shRNA Plasmid (h): sc-75310-SH, HSPA12B shRNA Plasmid (m): sc-146096-SH, HSPA12B shRNA (h) Lentiviral Particles: sc-75310-V and HSPA12B shRNA (m) Lentiviral Particles: sc-146096-V.

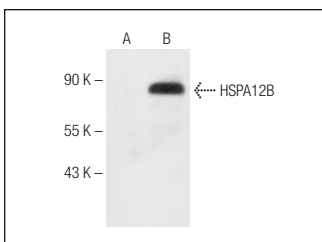
Molecular Weight of HSPA12B: 76 kDa.

Positive Controls: HSPA12B (h): 293T Lysate: sc-112052, WI-38 whole cell lysate: sc-364260 or ES-2 cell lysate: sc-24674.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HSPA12B (A-12): sc-376020. Western blot analysis of HSPA12B expression in non-transfected: sc-117752 (A) and human HSPA12B transfected: sc-112052 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.